## REMARKS/ARGUMENTS

In the Office action dated March 1, 2005 the Examiner rejected claims 1 - 4 under 35 U.S.C. § 103. Reconsideration of the rejection and reexamination of this application are hereby requested because the cited references do not teach or suggest, for example, an apparatus where an output from a gate is coupled via a resonant line to a transmit-receive antenna, then the gate terminal receives a reflected wave from the transmit-receive antenna to obtain a beat signal component.

Request for Acknowledgment of Information Disclosure Statement

Applicant submitted an Information Disclosure Statement including the cited reference to the U.S. Patent Office on July 24, 2003. To date, Applicant has not received an acknowledgement that the July 24, 2003 Information Disclosure Statement was considered by the Examiner. Applicant requests that an initialed copy of the FORM PTO/SB/08A/B be entered in the application file and returned to Applicant with the next communication from the Office in accordance with MPEP § 609.

Applicant's Response to the 35 U.S.C. § 103 Rejection

Claims 1 and 3 were rejected under 35 U.S.C. § 102 as being unpatentable over Yaacov et al., U.S. Patent No. 5,237,330 (referred to hereafter as "Yaacov"), in view of Suzuki et al., U.S. Patent No. 5,576,713 (referred to hereafter as "Suzuki").

Claim 1 is the sole independent claim. Claim 1 recites, in part:

an oscillating output, from a gate of an FET functioning as an oscillator, is coupled via a resonant line to a transmit-receive antenna, a wave, transmitted from said antenna and returned as a reflected wave, is received at said gate.

Thus, in the apparatus of claim 1 the same gate of the FET may transmit the oscillating output and receive the reflected wave. As a result, in some embodiments the constitution of the detection apparatus may be relatively simple and compact, and the cost of the apparatus reduced.

In contrast, Yaacov discloses a dielectric resonating oscillator (DRO) 10 that incorporates an FET and a dielectric resonator 13 serves as a transmitting antenna. Here, the transmitter and receiver are provided separately as illustrated in Figure 1 and Figure 2A. Yaccov is silent regarding the connections of the FET 11 and the dielectric resonator. Hence, Yaacov does not teach or suggest "an oscillating output, from a gate of an FET, is coupled via a resonant line to a transmit-receive antenna." Furthermore, Yaacov does not teach or suggest "a wave, transmitted from said antenna and returned as a reflected wave, is received at said gate." Here, "said antenna" is the transmit-receive antenna.

Suzuki describes, referring to Fig. 20, that a "GaAs FET 20 has a function for transmitting and receiving a signal to and from the resonator 22." See column 8, lines 16 - 17. However, the resonator 22 only functions as a resonant circuit to obtain a desired frequency. In other words, a gate terminal is used to

cause the signal to go to and back from the resonator in order to obtain the desired frequency,

The resonator is not, however, used to couple a signal to an antenna. Rather, in Suzuki a "coupler 21 outputs the signal which appears to the drain of the GaAs FET as an oscillating frequency signal $V_o$." See column 8, lines 17 - 19.

Moreover, Applicant notes that Fig. 20 only discloses an oscillator. A transmitting antenna and a receiving antenna are separately provided for the radar equipment as shown in Fig. 19. Here, signal $V_o$ of the drain of the GaAs FET is transmitted, as an output of the oscillator, to the transmitting antenna (the upper antenna in Fig. 19). The receiving antenna (the lower antenna in Figure 19) is separately provided from the transmitting antenna. Hence, Suzuki does not teach or suggest the use of a transmit-receive antenna.

Furthermore, the signal from the receiving antenna does not return to the oscillator of Figure 20. This is shown, for example, in Figure 11.

In summary, in Suzuki the resonator 22 is used to generate an oscillating signal at the gate terminal of the FET, the drain terminal of the FET outputs the frequency signal $V_o$ and $V_o$ is output to the transmitting antenna as an output of the oscillator. A received signal from an antenna is then sent to a different circuit. Therefore, "transmitting" and "receiving" a signal to and from the resonator 22 as disclosed in Suzuki is not a transmission to and reception from a transmit-receive antenna as claimed in claim 1.

The disclosures of Yaacov and Suzuki thus differ significantly from the apparatus of claim 1. Hence, even assuming there was sufficient motivation and teaching to combine these references (which there is none), the combination does not teach or suggest all of the limitations set forth in claim 1.

Accordingly, Applicant submits that independent claim 1 is not obvious in view of the cited references. Claim 3 that depends on claim 1 also is patentable over the cited references for the reasons set forth above. In addition, this dependent claim is patentable over these references for the additional limitations that the claim contains.

Claims 2 and 4 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Yaacov in view of Suzuki, as applied to claim 1 above, and further in view of Matsui et al., U.S. Patent No. 5,450,040 (referred to hereafter as "Matsui"). Both of these claims depend on independent claim 1.

As discussed above in conjunction with Applicant's response to the rejection of claim 1, Yaacov and Suzuki do not teach or suggest all of the limitations of claim 1. Matsui also fails to disclose these limitations. Consequently, even assuming there was sufficient motivation and teaching to combine these references (which there is none), the combination does not teach or suggest all of the limitations set forth in claim 1. It follows then that the combination also fails to teach all of the limitations of dependent claims 2 and 4. Moreover, these dependent claims are patentable over these references for the additional limitations that these claims contain.

**Conclusion**

In view of the above amendments and remarks it is submitted that the claims are patentably distinct over the cited references and that all the objections to the drawings and the rejections of claims have been overcome. Reconsideration and reexamination of the above Application is requested.

Respectfully submitted,
CHRISTIE, PARKER & HALE, LLP

By _____
Stephen D. Burbach
Reg. No. 40,285
626/795-9900

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